



Daffodil
International
University

PROJECT WORK REPORT

On

**DEVELOPMENT OF LICHEE LOLLY ICE CREAM &
ASSESSMENT IT'S QUALITY.**

Submitted To

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Date of Submission: 23-12-2018

Declaration

I herewith declare that this thesis is predicated on my original work aside from equations and citations that are punctually acknowledged. This thesis paper is ready to submit for the partial fulfillment of the degree of B.Sc. in Nutrition & food Engineering. I additionally declare that it's not been antecedently submitted for different the other degree at Daffodil International University of Science & technology or other establishments

LETTER OF TRANSMITTAL

Date: 23 December 2018

Professor Dr. Md. Bellal Hossain

Head Department of Nutrition & Food
Engineering Daffodil International
University.

Subject: Submission of a project report on DEVELOPMENT OF LICHEE LOLLY ICE CREAM & ASSESSMENT IT'S QUALITY

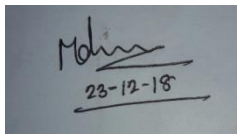
Dear Sir,

It is an excellent pleasure and honor American state on behalf of me to possess the chance to submit me position report on production of microbiological Quality Assessment of hand sewn Lolly in street of Dhaka town as a locality of the Nutrition and Food Engineering (NFE) program.

I have ready this report supported the preference information throughout my project report during this varsity science laboratory. it's nice action to figure below your active direction. This report is predicated on, "Studies on the assembly of Edible Microbiological Quality Assessment of hand sewn Lolly. I even have got the chance to figure during this varsity science laboratory for a few days below the direction lecturer NajiaKamrul .

This is the primary times this project gave American state each tutorial and sensible exposures. The project gave American state the chance to develop a network with the company atmosphere.

Sincerely yours,



Mahabubur Rahman
ID: 161-34-501
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LETTER OF AUTHORIZATION

Date: 23 December 2018

Professor Dr. Md. Bellal Hossain

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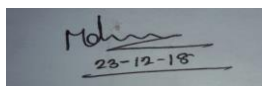
Subject: Declaration regarding the validity of the Project Report.

Dear Ma'am,

This is my truthful declaration that the “**Project Report**”. I have prepared is not a copy any Thesis Report previously made any other students.

I also express my honestly confirmation in support to the fact that the said thesis report has neither been used before to fulfill my other course related not it will be submitted to any other person an authority in future.

Yours Sincerely,



Mahabubur Rahman

ID: 161-34-501 Department of Nutrition and Food Engineering

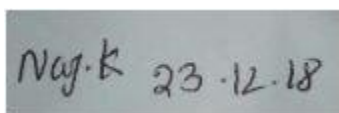
Daffodil International University

APPROVAL CERTIFICATION

This is to certify that this project entitled “Development of LicheeLolly Ice-Cream Industry Ltd” of Project. Mahabubur Rahman, ID: 161-34-501 B.Sc. Students, Departments of Nutrition and Food Engineering, Daffodil International University, has been carried out under my Supervision. This is further to certify that this project work is carried out as partial Requirement for fulfillments of the B.Sc. Degree in Nutrition and Food Engineering.



Professor Dr. Md. Bellal Hossain
Professor and Head
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Najia kamrul, Supervisor
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I am deeply indebted to my Supervisor faculty member Dr. Md. Bellal Hossain, Department of Nutrition& Food Engineering and Daffodil International University for his wholehearted management throughout my structure attachment amount. I'm terribly grateful to the management Najia Kamrul. For giving me permission to hold out this project in his organization. it might be terribly tough to organize this report up to the present mark while not their steerage.

Finally I'd wish to specific my warmest because of NFE school members for his or her infinite inspiration and encouragement throughout the scholar life.

Abstract

In this study found that Lichi flavor in lolly ice carem , Brix-21 , acidity-0.19 – Density- 1.072, microbiological tests—Total count ->330, coliform-o. After getting the test, I found the results of the results., and coliform have been found at certain levels which will not cause any harm to the human body. Rather it will be beneficial.

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Chapter -1

INTRODUCTION

Introduction

A lollipop may be a water or lolly-based quiescently frozen snack on a stick. in contrast to frozen dessert or frappe, that is whipped whereas freeze to forestall crystal formation, associate degree lollipop is frozen whereas at rest and becomes a solid block of ice? The stick is employed as a handle to carry it. while not a stick, the frozen product is thought as one thing else (e.g. freezie). If the litchi fruit can be used, then its edges would be far more offered. currently the litchi flavors are used as litchur seals. Here I even have done microbiological tests of licheeLolli frozen dessert. once obtaining the take a look at, I found the results of the results. Est, mold, and coliform are found at bound levels which can not cause any hurt to the shape. Rather it'll be helpful.

Preparation

Lolly is ready by automatically compression or macerating (sometimes stated as cold ironed lichees and vegetable flesh while not the applying of warmth or solvents. for instance, orange lolly is that the liquid extract for the lichees of the orange trees and tomato lolly is that the liquid that results from pressing the lichees of the tomato plants. Lolly could also be ready within the home from contemporary lichee and vegetables employing a type ofhand or electrical lollys several business lollys square measure filtrate to get rid of fiber or pulps however high-pulp contemporary orange lolly may be a lollyular drink. Additives square measure place in some lollys, like sugar and artificial flavors (in some licheelolly-based beverages); savory seasonings (e.g., in climatetomatololly drinks).

Processing methodology of lollys includes.

- Washing and sorting
- Lolly extraction
- Straining filtration and clarification
- Blending pasteurization
- Filling, waterproofing and sterilization
- Cooling, labeling and packing.

After the lichees square measure picked and washed, the lolly is extracted by one in all 2 machine-drivenstrategies. within the 1st technique, 2 metal cups with sharp metal tubes on very cheap cup return

Together, removing the peel and forcing the flesh of the lichee through the metal tube. The lolly of the lichee then escapes through tiny holes within the tube. The peels will then be used additional, and square measure washed to get rid of oils that square measure saved later for usage. The second technique

In lowest harmful effects on the standard of the food. Pulse electrical fields kill needs the lichees to be cut in 0.5 before being subjected that extract the lolly.

Processing

Lollys square measure typically consumed for his or her perceived health's benefits. for instance, orange lolly is wealthy in vitamin C flock acid and metal, is a superb supply of bioavailable antioxidant and considerably improves blood lipid profiles in folks affected with purees related to an organic process health profit. cranberry lolly has long been better-known to assist forestall or perhaps treat bladder infections, and it's currently better-known that a substance in cranberries prevents microorganism from binding to the bladder.

Licheelolly may be a lollyular alternative of drinkable for each adults and youngsters owing to the flavour and spirited colours. Licheelolly has several health advantages related to it. There square measure numerous styles of lichees, that grow in numerous components of the globe, and every one differs greatly from each other. every lichee has explicit chemical characteristics, colours and flavors, and though their consumption ought to be enclosed in an exceedingly healthy diet, it's consumption may be an alternative addicted to personal style. Licheelolly, reckoning on the lichee used, has several minerals, trace minerals and macro minerals, that all have a vital role in 2 general body functions: building and control. This book discusses the nutritional composition and health benefits of several different lichee, which include elderberries; noni; acai; oranges; other citrus lichees; Brazilian yellow passion lichee; and blackberries. (Imprint: Nova)

Chapter -2

Review of literature

Lolly

Lolly may be a frozen made of the extraction or pressing out of the natural liquid contained in lichees and vegetable. It also can talk to liquids that arflavoured with these or different biological food sources like meat and food.

Orange

Oranges ar a wonderful supply of antioxidant, providing ninety-seven milligrams per giant orange. The Institute of drugs recommends that men get seventy-five milligrams of antioxidant per day which girls get sixty. associate degree orange conjointly provides you regarding fifteen % of your daily demand for vitamin B

and fulfills ten % of your daily K intake. It conjointly provides fifty-five of the 320 micrograms of B you would like daily. consistent withScienceDaily.com, oranges conjointly give citrus lemonades, which can facilitate fight cancers of the mouth, skin, lung, breast, abdomen and colon.

Grapes

Orange a cup of grapes has regarding one hundred calories and one.4 grams of fiber. though they're high during ahost of vitamins, their high flavonoid content boosts their inhibitor powers.

They contain a flavonoid known asquercetin, which, consistent with researchers World Health Organization revealed a study within the "European Journal of Pharmacology" in 2008, demonstrates medication and anti-inflammatory properties. every cup of grapes conjointly provides regarding third of the one.8 to 2.3 milligrams of Mn the Institute of drugs recommends you get per day. Mn plays a task keep your bones and connective tissues healthy

Lolly mixes

Mango-Orange-Strawberry Lolly. Elevate plain previous orange lolly by adding mango to the combo. made in beta carotene, the carrots conjointly supply a delicious thanks to temper the citrusy sweetness of the oranges. Stir in chia seeds when juicing, for a thicker texture — and a healthy dose of fiber and macromolecule.

Lolly quality

AIJN is committed to the promotion of safe and authentic licheelolllys and nectars, compliant with all relevant EU legislation and client expectations. It's recognized that the legislation doesn't cover intimately all aspects of the licheelolly process and bottling chain which legal provisions typically leave area for various interpretations.

To complement legislation wherever necessary and to supply steering for the appliance of key legislation AIJN has developed pointers and codes like the AIJN Code of follow for analysis of Quality and legitimacy of Lichee and Vegetable Lolllys, Guide to smart Hygiene Practices within the Lolly trade, Guideline for Vegetable Lolllys and Nectars, Guideline on Traceability of LicheeLolllys, etc.

Composition of lolly

The edible elements of pomegranate lichee flavor pictured zero.25% of total, comprising seventy-nine. The recentlolly contained seventy-nine.4% wet, two hundredth total sugars, aldohexose powder zero.35%, acid zero.25%, stabilizer zero.2%, water 78.9%, natural cloudifier zero.05% total acidity (as acid acid), 0.22 mg/100 cubic centimeter vitamin C, 19.6 mg/100 cubic centimeter free amino gas and zero.05 g/100 cubic centimeter ash. Meanwhile, the seedsar an upscale supply of total lipids, protein, crude fibers and ash representing twenty-seven.2, 13.2, 35.3 and 2.0%, severally, and 4.7% total sugars. The iron, copper, sodium, atomic number 12 and metallic element contents of the lolly, except atomic number 19 that was forty-nine.2 ppm within the lolly.

Nutritional Value: Lichee

Licheelolly 1 cup 100gm

Calories 100	
% Daily Value*	
Calories 100	
Total Fat 0 g	0%
Saturated fat 0 g	0%
Polyunsaturated fat 0 g	0%
Monounsaturated fat 0 g	0%
Cholesterol 0 mg	0%
Sodium 5 mg	0%
Total Carbohydrate 20.3375 g	24%

Dietary fiber	0.122 g	2%
Sugar	20.2155 g	
Protein	4 g	1%
Vitamin A	0% Vitamin C	%
Calcium	0% Iron	1%
Vitamin D	0% Vitamin B-6	20%
Vitamin B-12	0% Organic Acid	1%

Function of Licheelolly

Lychee contains a high content of the inhibitor water-soluble vitamin, alimentionation Bcomplex and phytonutrient flavonoids. These antioxidants defend the body from aerobic stress caused by pollution and ultraviolet lightradiation. Free radicals ar created from atomic number 8 molecules and that they alter the operate of our cells to create cancer cells

Bacteria in lolly

A thermo-acidophilic endospore-forming bacteria was isolated from a mixed licheelolly.

The organism, strain 3AT, was rod-shaped, grew aerobically at 30–60 °C (optimum 45–50 °C), pHscale 3.0–6.0 (optimum pH scale 4.0–4.5) and created acid from varied sugars. It contained menaquinone-7 because the major is opened antimalarial drug. The G+C content of the polymer was 53.1 cricket. The predominant cellular fatty acids of the strain were isoC15 : 0, anteiso-C15 : 0, iso-C16 : 0, iso-C17 : 0 and anteiso-C17 : 0, however ω-allycyclic fatty acids, that archaracteristic of the genus Alicyclobacillus, weren't found within the strain. phyletic analyses supported each 16S RNA and gyrB (DNA gyrase B fractional monetary unit cistron) gene sequences showed that strain 3AT falls into the Alicyclobacillus cluster, valid by vital bootstrap values. However, strain 3AT failed to show an in depthrelationship to the opposite species of the cluster. the extent of 16S polymer similarity between strain 3AT and alternative strains of the cluster was between 92.5 and 95.5 %.

Mold in lolly

The inactivation of *Byssoschlamysfulvaconidiospores* and *Neosartoriafischeriascospores* suspended in numerous lichee lollies by high periodic electrical fields (PEF) was studied. A concentric treatment chamber was used to apply the treatments. The molds were exposed to decline pulses (2 Hz) of various period periods (2–3.3 μs) depending on the kind of lichee lolly. The inactivation of *Fulvaconidiospores* relied on the treatment time (number of pulses breadth of pulses), field intensity and lichee lolly within which they were treated. The hypha inactivation multiplied once the applied range of pulses was multiplied. At a relentless input voltage (30 kV) the hierarchy of effectiveness for hypha inactivation was cranberry>grape>pineapple>orange>apple>tomato. In cranberry lolly the lollyulation of *Fulvaconidio* spores diminished virtually six log cycles when 2 pulses, whereas in tomato lolly it diminished but one log cycle when an equivalent treatment.

Yeast

Yeasts are predominant within the ancient and complicated method of trade. In spontaneous fermentations, there's a progressive growth pattern of native yeasts, with the ultimate stages invariably being dominated by the alcohol-tolerant strains of brewer's yeast. This species is universally called the 'wine yeast' and is wide most well-liked for initiating wine fermentations. The first role of wine yeast is to turn the fast, complete and economical conversion of grape sugars to fermentation alcohol, carbonic acid gas and alternative minor, however vital, metabolites while not the event of off-flavours. However, because of the strict nature of contemporary trade practices and complicated wine markets, there's Associate in Nursing evergrowing seek specialised wine yeast strains possessing a good variety of optimized, improved or novel oenological properties. This review highlights the wealth of untapped native yeasts with oenological potential, the quality of wine yeasts' genetic options and also the genetic techniques usually utilized in strain development.

■Methods

20 healthy feminine volunteers aged 18–40 y were recruited. Subjects consumed 750 ml/day of either cranberry lolly or a placebo drink for two weeks. Fasted blood and piddle samples were obtained over four weeks. The overall phenol, anthocyanin and catching content of the supplements and plasma were measured. Anthocyanin glycosides were known by wheel mass chemical analysis (MS–MS). Vitamin C, homocysteine and reduced glutathione (GSH) were measured by HPLC.

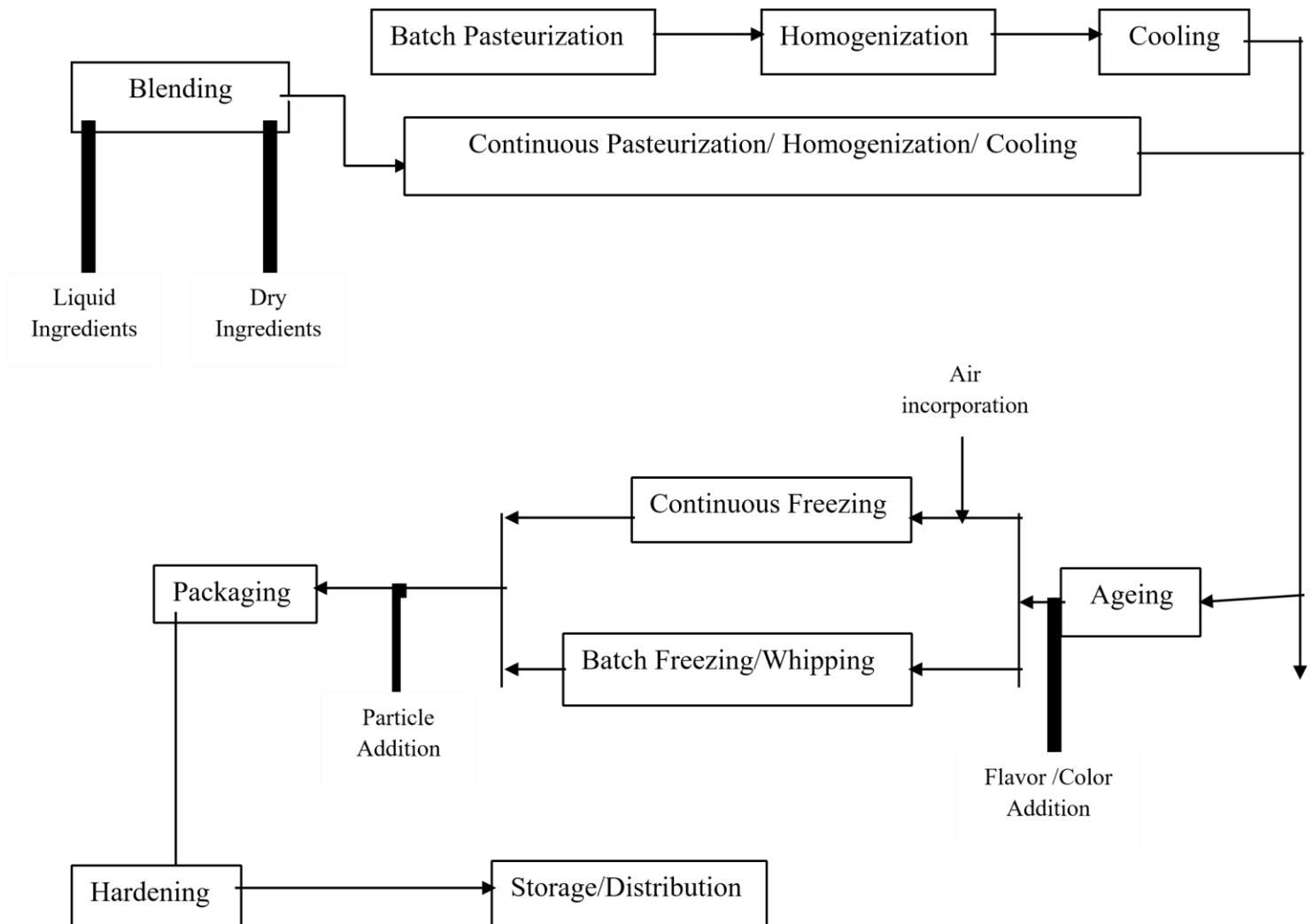
Total inhibitor ability was firm victimization negatron spin resonance (ESR) chemical analysis and by the FRAP assay. Plasma total cholesterol, high density lipoprotein (HDL), and denseness lipoprotein (LDL) cholesterol and triglycerides (TG) were measured. Peroxidase (GSH–Px), enzyme (CAT) and enzyme (SOD) activities were measured in erythrocytes. Piddle was collected for analysis of malonaldehyde (MDA) by HPLC and 8–Oxo–deoxyguanosine (8–Oxo–dG) by assay. Endogenous and induced desoxyribonucleic acid injury were measured by single cell gel electrophoresis (SCGE) in lymphocytes.

Types of lolly –

- Lolly Primary Ingredient Classification
- Mango lolly,
- Pineapple lolly
- Lemon lolly
- Orange lolly
- Pomegranate lolly

PROCESS FLOW DIAGRAM

Lolly Ice-Cream Manufacture:



Chapter- 3

Materials & Methods

Materials & methods

Research Affiliations

The present study was conducted at industrial Microbiology laboratory, institute of Nutrition & food Technology, Daffodil international University lab (DIUL), Dhaka

3.2 Microbiological Media and Reagents

❖ Buffer peptone water

Preparation: Dispense 5 g in 250ml of deionized water. Soak for 10 minutes, swirl to mix the dispense into final container. Sterilize by autoclaving for 15 minutes at 121 degrees centigrade

❖ Plate counting agar

Preparation: For the preparation of PCA 1000 ml distilled water was taken into a conical flask. Then 23.5g dehydrated plate counting agar was suspended in the water and heated to boil to dissolve the medium completely. Then the media was sterilized by autoclaving at 15 Ibs pressure (121 degrees centigrade) for 15 minutes

❖ Buffered peptone water

Preparation: 5.87g in 250ml distill water. Soak fir 10 minutes to mix the dispense into final container. 121-degree c for 15 min.

Nutrient agar

Preparation: In order to prepare nutrient agar medium 1000 ml distilled water was taken into a conical flask. 28 gm. of dehydrated nutrient agar was dissolved into the water. Then the rehydrated medium was boiled to dissolve the medium completely. Then the medium was autoclaved at a15 Ibos pressure (121`c) for 15 min.

Materials and Equipment's:

- Conical flask
- Burette stand

- Funnel

- 5gm lolly

- Balance

- Beaker

- Spatula

- Hot water

- Water-bath

- Sodium hydroxide (NaHO) 1.875 g
- Sulfuric acid 1 ml
- Filter paper
- Litmus paper
- pipette
- pipette stand
- Burets

3.2 Methodology for enumeration

❖ Enumeration of total viable count by pour plate method

Serial dilution of the water samples

The serial dilution was done in sterile test tubes, each containing ml of sterol ringer solution. 1 ml of water sample was taken carefully using a micro pipette with sterile tips and then transferred to the test tube containing 9ml of sterile ringer solution and vortexes 30 sec for mixing which gave 10⁻¹ dilution. Then 1 ml from 10⁻¹ dilution was transferred to another tube containing 9

ml ringer solution which gave 10⁻² dilution. In this manner, serial dilutions of water samples were made up to 10⁻⁴ dilution.

3.4 Plating:

1ml from each dilution was taken on sterile petri dishes. Then 20ml melted (45°C) plate count agar was poured on the petri dishes. Petri dishes were rotated clockwise and anticlockwise. Then the petri dishes were allowed to solidify.

3.5 Incubation

After solidification, the petri plates were taken into incubator and placed in inverted position and incubated at 25-30°C for a 72 hours.

3.6 Counting and recording

The plates having 25-250 colonies after incubation were selected for counting. The numbers of colonies on selected plates were counted by a colony counter. Finally the TVC was determined by multiplying colony numbers with reciprocal dilution factor and reported as CFU/ml and the results per dilution counted were recorded.

Total Viable Count (TVC)

Total Viable Count (TVC), also known as (ACC) gives a quantitative idea about the presence of microorganisms such as bacteria, yeast and mold in a sample. To be specific, the count actually represents the number of colony forming units (cfu) per g (or per ml) of the sample.

TVC is achieved by plating dilutions of the culture until 30-300 colonies exist on a single plate.

A high TVC count is usually attributable to poor quality.

In Food Microbiology is used as a benchmark for the evaluation of the shelf-life of foodstuffs. Its scope is as an assessment tool rather than focus towards a specific organism

Materials of Experience :



- Peeler
- Knives (stainless steel)
- Cutting boards
- Lolly extractor
- Thermometer
- Analytical balance
- Stainless steel saucepan
- 10kg scales
- Measuring cylinder
- Capping machine
- Wooden spoons
- Plastic funnels
- Plastic buckets
- Strainers

Isolation and estimation of microorganisms from lolly samples

Sample processing 10 ml of the sample was diluted with 90 ml of sterile buffered peptone water and mixed well (10-1 dilution). Serial dilutions were prepared and spread plate technique was used on appropriate selective media.

Bacteriological analysis of the collected lolly samples

Microbiological analysis included enumeration and identification of potential pathogens according to standard procedures for the number of heterotrophic bacteria, *Staphylococcus aureus*, *Salmonella*, *Shigella* and most probable number (MPN) of total coliforms.

Appropriate dilutions were then enumerated for Total aerobic plate counts using Nutrient Agar, Coliforms using Violet Red Bile Agar, Lysine Deoxycholate Agar was used for enumeration of Salmonella & Shigella. 16, 17 Potato Dextrose Agar (PDA) was used for plate counts of yeasts and molds. 6 All the selective media were obtained from daffodil varsity lab.

2. change integrity combine

Ice cream combine is pasteurised at 155°F (68.3°C) for half-hour or 175°F (79.4C) for twenty five sec. The conditions accustomed change integrity frozen dessert combine area unit larger than those used for fluid milk owing to multiplied body from the upper fat, solids, and sweetener content, and also the addition of egg yolks in dish merchandise.

3. Homogenize

Ice cream combine is homogenized (2500 to 3000 psi) to decrease the milk fat orb size to make a higher emulsion and contribute to a sander, creamier frozen dessert. blending conjointly ensures that the emulsifiers and stabilizers area unit well mingling and equally distributed within the frozen dessert combine before it's frozen.

4. Age the combination

Ice cream combine is aged at four0°F (5°C) for a minimum of 4 hours or nightlong. Aging the combination cools it down before phase change, permits the milk fat to partly crystallize and also the offers the proteins stabilizers time to hydrate. This improves the whipping properties of the combination.

5.Add Liquid Flavors and Colors

Liquid flavors and colors may be added to the mix before freezing. Only ingredients that are liquid can be added before the freezing, to make sure the mix flows properly through the freezing equipment.

#Acidity Test

Chemicals & Equipment Required:

1. Beaker
2. Dropper
3. Pipette
4. Burette
5. Phenolphthalein indicator
6. Sodium Hydroxide Solution (As Alkali) **Procedure:**

1. Take 5ml mix in a beaker.
2. Add 2-3 drops of phenolphthalein indicator.
3. Titration with 0.1 N Sodium Hydroxide Solution until the color changes to pink/rose.

Result:

Burette reading is the acidity of milk.

Calculation:

$$\text{Acidity} = \frac{(\text{Burette Reading} \times \text{Normality of Alkali} \times \text{Equivalent weight of Acid} \times 100)}{(\text{Weight of Sample} \times 1000)}$$

Brix test**Used chemicals & equipment**

1. No chemical use
2. Digital Refractometer

Test Procedure

1. Firstly set zero the refractometer with distilled water
2. Then dry it
3. Place small volume of sample
4. Close it
5. Refractometer reading appears after temperature reach at 20 degree calicos. **#pH test**

Required chemicals/equipment

1. No chemical is used.
2. pH meter

Test procedure

1. Take 100ml water in a beaker as a sample.
2. Deep the pH meter into it.
3. Collect the reading.
4. pH meter reading is the result
- 5.

Organoleptic /Sensory Evaluation: Sensory analysis of White and licheelolly check was done by testing panel. The testing panels were consisting of thirty members. They were asked to judge the form,color ,flavor, style and overall acceptableness by score rating on the idea of nine points indulgent scale (Amerine et al.,1965) given below:

Table: Nine points hedonic scale:

SCORE	SAMPLE CODE									
	S1					S2				
	Appearance	Flavor	Taste	Texture	Overall Acceptance	Appearance	Flavor	Taste	Texture	Overall Acceptance
(9) Like extremely	14	12	13	14	10					
(8) Like very much	8	8	10	8	8					
(7) Like moderately	4	5	4	4	5					
(6) Like slightly										
(5) Neither like nor dislike										
(4) Dislike slightly										
(3) Dislike moderately										
(2) Dislike very much										
(1) Dislike extremely										

Chapter- 4

Results and discussion

RESULTS AND DISCUSSION

This study was conducted to gauge the standard of lollies by learning their physio-chemical parameters and biological science.

Microbiological analysis

The samples collected were examined for their pH scale. The pH scale of sample A was 3.5 and of sample B was 4; that shows that sample A was additional prone towards contamination (Table 1).

Total heterotrophic microorganism count

Total heterotrophic microorganism count of prepackaged licheelolly for sample A was thirty x10¹ cfu/ml and sample B was one x one zero one cfu/ml (Table a pair of and 3). The microorganism count was low for sample B and better for sample A (Fig 1). All the results of the microorganism counts from all the prepackaged licheelolly analyzed were among the appropriate limit. in line with the International Commission on Microbiological Specification of Foods, the appropriate limit of pedophilic aerobic microorganism in food merchandise mustn't exceed a most of 10³ cfu/ml.21 tannic acid et al. twenty two conjointly found the load of viable microorganism in processed lolly samples among the quality limit within the average of 10³ cfu/ml. However, the counts square measure significantly high since no being ought to be recovered in any food meant for human consumption.23, 24

Total and fecal coliforms, Salmonella, enteric bacteria and true bacteria counts

No coliform microorganism were discovered altogether prepackaged licheelolly samples. None of the XLDA plates showed any black colonies of enterobacteria or pale pink colonies of enteric bacteria.

Total fungi count

No traces of fungi and mould were found in either of the samples.

Discussion

The microorganism count was low for a few of the change integrity licheelollys and relatively higher for a few others. Higher levels of total viable counts (TVCs) in licheelollys were in accordance with the previous studies [5, 18-21].

The comparatively higher microorganism counts were because of poor hygienical conditions and cause food spoilage and food borne diseases. These findings concerning the microorganism load were against the findings of Tasnim et al. [World Health Organization rumored the microorganism counts of licheelollys among the quality limits.

The RESULTS square measure in line with previous findings [14, 18, 23]. It suggests that though most of the microbes don't survive low pH scale of lollys and process ways conjointly kill most of the microbes however boundspores of *Bacillus* spp. survive and cause a heavy threat to the customers. it absolutely was steered that quality of licheelollys ought to be monitored on regular basis to avoid any future outbreaks [19]. The present study disclosed bactericide activity varied } honey samples against gram positive microorganism at various concentrations and no activity was found against gram negative microorganism. numerous studies had showed bactericide activity of honey samples against numerous microorganism [24-26], that indicated that honey are often used as another to antibiotics to treat numerous infections.

In the gift study, honey samples showed bactericide activity in undiluted, seventy five and five hundredth however begin to decrease with decreasing the dilution proportion significantly against *B. alvei*, *B. polymyxa*, *B. subtilis* and *S. aureus*. The vary of antimicrobial activity of honey has been rumored from concentrations of three to five hundredth and better in line with several investigators. Antibacterial activity is influenced by the concentration of honey [24], the upper concentrations provoke its utility as a bactericide agent. The antimicrobial activity of honey has been shown to vary from concentrations <three you must fifty try to higher by French et al. it's been shown that the antiseptic result of honey is influenced by its concentration and also the nature of the microorganism. Honey has excellent repressive potential against *E. coli*, enteric bacteria and enterobacteria [30]. numerous factors square measure to blame for variation of antimicrobial efficiency among the various honeys that embody its seasonal, geographical and botanic supply additionally as gather, process and storage conditions [31]. Honey contains eightieth sugars, primarily aldohexose and fruit sugar and a few saccharose and malt sugar, and fewer than eighteen water. diffusion stress caused by high concentration of sugars and low

wetness content causes prevents spoilage of honey by microorganisms. At higher dilutions, compounds aside from sugar square measure to blame for the bactericide activity. within the Sixties, H₂O₂ was known as a serious bactericidecompound in honey that is made by the catalyst aldohexose enzyme from aldohexose [32]. However, numeroushoneys have shown bactericide activity because of no peroxide parts. Recently, methylglyoxal and bee defensin-1 are known in honey that square measure bactericide compounds. The contribution of the low pH scale (generally between three.2 and 4.5) for the bactericide activity of honey has been shown [33]. additionally, there square measure clear indications for the presence of further honey bactericide compounds of that the identity remains to be elucidated.

All the licheelollys oversubscribed on edge were found extremely contaminated with unhealthful microorganism. Lack of sterilisation is one in all the key factors to blame for contamination of licheelollys. These organisms ought to be tested at specific management points to achieve a more robust internal control. the most effective ways for interference of contamination embody constant police work and smart producing apply [34]. Therefore, it'ssteered that these lollys ought to be monitored sporadically in food laboratories for quality and human consumption. As another honey are often mixed with the licheelollys as flavor or as sweetener so bactericide properties of honey might preserve the lollys from contaminants. Some honey lolly merchandise like change integrity and homogenized sugary with honey for while storage e.g. yoghurt with honey is found in industrial sector [35].


Mean		4.7		8.1
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Conclusion

If the litchi Lolly could be used, then its benefits would have been much more available. Now the litchi flavors have been used as litchur seals. Here I have done microbiological tests of Lichi Lolli ice cream. After getting the test, I found the results of the results. Est, mold, and coliform have been found at certain levels which will not cause any harm to the human body. Rather it will be beneficial.

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